Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	38.049	26.508	31.303	-	31.303	16.860	12.163	19.647	10.876	Continuing	Continuing
114: *Tactical Unmanned Aerial Vehicle (TUAV) (MIP)*	1.619	-	-	-	-	-	-	-	-	Continuing	Continuing
11A: *Advanced Payload Develop & Spt (MIP)*	24.452	15.910	6.247	-	6.247	7.180	7.386	11.994	3.094	Continuing	Continuing
11B: *TSP DEVELOPMENT (MIP)*	5.164	6.282	20.730	-	20.730	5.436	2.709	4.363	4.437	Continuing	Continuing
123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (MIP)*	6.483	4.316	4.326	-	4.326	4.244	2.068	3.290	3.345	Continuing	Continuing
D10: *SUAV (MIP)*	0.331	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Project 114: Tactical Unmanned Aerial Vehicle (TUAV) Shadow 200 provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. The Shadow provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system air vehicle meets the required operating range of 50 kilometers and remains on station for up to nine hours with the re-wing configuration. The TUAV Shadow system consists of four air vehicles (each configured with an Electro Optical/Infrared (EO/IR) sensor payload), launcher, ground control and support equipment including: power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) and is supported at the division level by a Mobile Maintenance Facility (MMF).

Project 11A, The STARLite Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI) payload is a lightweight, high performance, all weather, multi-functional radar system for the Gray Eagle Unmanned Aircraft System (UAS). The STARLite system provides wide area, near real time Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities. It operates throughout the UAS flight mission profile in adverse weather and through battlefield obscurants. The Common Sensor Payload (CSP), an Electro Optical Infra Red w/Laser Designator (EO/IR/LD) system, also for the Gray Eagle, provides a day/night capability to collect and display continuous imagery with the ability to designate targets of interest for attack by laser guided precision weapons. Additional initiatives will continue to focus on the transition of technologies directly supporting emerging requirements and the Army's Current and Future Force. This effort has been expanded to include High Definition (HD) and Target Location Accuracy (TLA) capability.

Project 11B, The Tactical Signals Intelligence (SIGINT) Payload (TSP) is a SIGINT sensor, currently under development for the Gray Eagle that detects radio frequency (RF) emitters. The TSP system will provide a SIGINT capability to the tactical commander. The TSP system will be a modular, scalable payload using an architecture that is software reconfigurable to allow for growth and flexibility as technology, and as the adversaries use of technology, changes. The TSP system improves

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situational awareness and shortens the targeting cycle by detecting and identifying emitters associated with high value targets (HVTs). The TSP system is capable of processing conventional signals, standard military signals, and modern signals of interest.

Project 123: The Unmanned Aircraft System (UAS) Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a Joint facility that develops, integrates, and supports the enhancement of its Multiple Unified Simulation Environment (MUSE) capability for Army systems and operational concepts. The JTC/SIL conducts prototype hardware and software development, builds the UAS Institutional Mission Simulator (IMS) trainers for the Shadow, Hunter, and ERMP programs, and provides modeling and simulation support. The MUSE is a real-time, operator in-the-loop simulation that may be integrated with larger simulations in support of Army and Joint training and exercises. The MUSE is also employed as a Mission Rehearsal Tool for ongoing combat operations. This project funds the management of the JTC/SIL and MUSE enhancements.

Project D10: The Small Unmanned Aircraft System (SUAS) provides the battalion and below ground maneuver elements critical situational awareness and enhances force protection. The system provides the small unit commander an organic and responsive tactical Reconnaissance, Surveillance, and Target Acquisition (RSTA) capability through the ability to view real-time Full Motion Video (FMV) and sensor data via the system ground control station. Other compatible receivers, such as the One Station Remote Video Terminal (OSRVT) and appropriately equipped manned platforms may also receive the SUAS products.

A SUAS includes three aircraft that must be launched by hand or by some other means that does not require an improved launch/recovery location. In addition to the aircraft, the system contains ground support equipment, which includes an interoperable hand controller. This equipment is fully transportable in or on rucksack type packs that are organic to the unit.

The SUAS RDT&E budget line includes funding for studies and incremental development/upgrade of current SUAS capabilities that will capitalize on new technology insertions based on identified user requirements. Past improvements include a Digital Data Link capability, introdu

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	54.300	40.650	15.681	-	15.681
Current President's Budget	38.049	26.508	31.303	-	31.303
Total Adjustments	-16.251	-14.142	15.622	-	15.622
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-16.251	-14.142	15.622	-	15.622

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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
114: *Tactical Unmanned Aerial Vehicle (TUAV) (MIP)*	1.619	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Funding shifts to PE 0305233A - RQ-7 UAV MODS, Project RQ7 in FY2011.

A. Mission Description and Budget Item Justification

Tactical Unmanned Aerial Vehicle (TUAV) Shadow 200 provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. The Shadow provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system air vehicle meets the required operating range of 50 kilometers and remains on station for up to nine hours with the re-wing configuration. The TUAV Shadow system consists of four air vehicles (each configured with an Electro Optical/Infrared (EO/IR) sensor payload), launcher, ground control and support equipment including: power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) and is supported at the division level by a Mobile Maintenance Facility (MMF).

All 102 Shadow UAS systems have been procured and 93 have been fielded. Shadow has amassed over 709,000 total flight hours, most of which were flown in support of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). The Shadow UAS began being deployed to OIF in 2003 and to OIF in 2006. Incremental upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other manned and unmanned weapon systems, to include One System Remote Video Transceiver (OSRVT). Continued developmental improvements are required to provide greater interoperability, increase operational capability and flexibility to the Brigade Combat Team. Modifications to the airframe, avionics, payloads, ground control equipment, and support equipment are based on documented requirements and lessons learned units operating in OEF and OIF.

Justification:

FY2013 RQ-7 UAV Base funding of $31.158 million will be used for Capability Improvements, specifically: Engine improvements (engine development), Air Vehicle modifications (small mission computer development, weatherization, improved fuel system (vented), GPS Denied Operations and redundant avionics development), and Ground Equipment (interoperability) improvements. Additionally, funds will be for System Engineering, Program Management, Software Architecture and Reliability Solutions and System Test and Evaluation support. Funds will also be used to conduct the Increment II OSRVT Limited User Test (LUT), and other applicable OSRVT test events.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Base: Block Upgrades / Capability Improvements	1.619	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Articles:	0		
Description: Funding is provided for the following effort ***FY 2011 Accomplishments:*** Base: OIF Improvements / Block Upgrades / Capability Improvements			
Accomplishments/Planned Programs Subtotals	1.619	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RQ-7 UAV MODS (A00018): *RQ-7 UAV MODS (A00018)*	548.998	165.139	104.339		104.339		143.584	135.313	137.220	0.000	1,379.383
• TUAV - Initial Spares: *TUAV - Initial Spares*	2.613									Continuing	Continuing
• RQ-7 UAV MODS - (Project RQ7): *RQ-7 UAV MODS - (Project RQ7)*	7.555	31.896	31.158		31.158		22.773	22.953	18.991	0.000	158.960

D. Acquisition Strategy

A System Capability Demonstration (SCD) was conducted with four contractors. The results from the SCD in conjunction with proposal evaluations resulted in the competitive down select of a Best Value TUAS. A successful Milestone II ASARC was conducted 21 Dec 99 and a Milestone III Decision 25 Sep 02. The full rate production contract was awarded 27 Dec 02, and all 102 systems were procured by FY2009. Continued development of the selected TUAV system will be accomplished through a series of modifications and retrofits such as Tactical Common Data Link (TCDL), Communications Relay, Laser Designator, Larger engine, Larger fuselage, and reliability upgrades. Development/integration of these improved capabilities will be through individual efforts on sole source cost-plus fixed fee engineering services contract with the Shadow prime contractor and competitive contracts. Development of the larger engine will be accomplished through a competitive process.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army		DATE: February 2012
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	RO	PM UAS:Redstone Arsenal, AL	9.677	-		-		-		-	0.000	9.677	0.000
		Subtotal	9.677	-		-		-		-	0.000	9.677	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Base: OIF Improvements / Block Upgrades / Capability Improvements	Various	AAI Corporation:Hunt Valley, MD	23.774	-		-		-		-	Continuing	Continuing	Continuing
Target Location Error (TLE) / TCDL / JTRS/ Laser Designator	SS/CPFF	AAI Corporation:Hunt Valley, MD	52.200	-		-		-		-	0.000	52.200	0.000
Re-Wing	SS/CPFF	AAI Corporation:Hunt Valley, MD	10.600	-		-		-		-	0.000	10.600	0.000
Common System Integration (UCGS, Trainers, OSRVT)	SS/CPFF	AAI Corporation:Hunt Valley, MD	23.206	-		-		-		-	0.000	23.206	0.000
TUAS Heavy Fuel Engine	SS/CPFF	AAI Corporation / Other:Hunt Valley, MD	1.600	-		-		-		-	0.000	1.600	0.000
LALHAV	SS/CPFF	AAI Corporation:Hunt Valley, MD / Various	2.000	-		-		-		-	0.000	2.000	0.000
Shadow Encryption	Various	Various:Various	29.500	-		-		-		-	0.000	29.500	0.000
		Subtotal	142.880	-		-		-		-			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various Contractor:Various	12.196	-		-		-		-	0.000	12.196	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army		DATE: February 2012
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering and Logistics Support	MIPR	AMRDEC / IMMC:Redstone Arsenal, AL	8.758	-		-		-		-	0.000	8.758	0.000
Government Engineering Support - Extended Range	MIPR	AMRDEC:Redstone Arsenal, AL	14.760	-		-		-		-	0.000	14.760	0.000
		Subtotal	35.714	-		-		-		-	0.000	35.714	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Rolling Take Off	Various	Various Activities:Various	17.815	-		-		-		-	0.000	17.815	0.000
Development Testing / TCDL (Tactical Common Data Link)	Various	Various Activities:Various	12.235	-		-		-		-	0.000	12.235	0.000
		Subtotal	30.050	-		-		-		-	0.000	30.050	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	218.321	-		-		-		-			

Remarks

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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
11A: *Advanced Payload Develop & Spt (MIP)*	24.452	15.910	6.247	-	6.247	7.180	7.386	11.994	3.094	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Tactical Unmanned Aerial Vehicles (TUAV) budget line is a shared funding line between multiple Payload programs. These Payload programs support the Army's transformation by developing Reconnaissance, Surveillance and Target Acquisition (RSTA) and Intelligence, Surveillance and Reconnaissance (ISR) payload systems for brigade combat teams, divisions, and corps Unmanned Aircraft Systems (UAS). This is in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) UAS priorities.

Small Tactical Radar - Lightweight (STARLite) Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI) is a lightweight, high performance, all weather, multi-functional radar system for the Gray Eagle Unmanned Aircraft System (UAS). The STARLite system provides wide area, near real time Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities. It operates throughout the UAS flight mission profile in adverse weather and through battlefield obscurants. The SAR mode generates quality images for the battlefield commander for detection, classification and location of stationary commercial wheeled vehicle-size targets. The GMTI mode detects moving ground targets, provides location information and performs cross-cue with the Electro-Optic/Infrared (EO/IR) sensors.

Common Sensor Payload (CSP) - Electro Optical / Infra Red / Laser Designator (EO/IR/LD) provides day/night capability to collect and display continuous imagery with the ability to designate targets of interest for attack by laser guided precision weapons. It is the EO/IR/LD sensor for Gray Eagle UAS which supports force applications, battlespace awareness, force protection, and net-centric operations across the battlefield to provide wide area, near real time RSTA capabilities. Additional initiatives will continue to focus on the transition of technologies directly supporting emerging requirements and the Army's Current and Future Force. CSP is being procured for the Gray Eagle UAS program and has potential application to other platforms.

CSP High Definition (HD) is the first capability enhancement for the CSP which will provide the commander with HD Full Motion Video (FMV) in both the Electro-optical and Mid-wave IR spectrums for improved battlefield situation awareness and identification of high value targets. All Gray Eagle platforms will be equipped with CSP HD.

CSP Target Location Accuracy (TLA) is the final upgrade to the current capability and provides all of the CSP HD functionality but with significantly improved targeting accuracy. CSP TLA provides the Battlefield Commander a vastly improved TLA allowing timely use of Joint Direct Attack Munitions (JDAMs) and Coordinate Seeking Weapons (CSWs) across the battlespace. CSP TLA is being procured as an upgraded capability for the Gray Eagle UAS program and can be integrated onto other manned and unmanned aerial platforms. All Gray Eagle platforms will be equipped with the CSP TLA capability.

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The Tactical Signals Intelligence (SIGINT) Payload (TSP) is a SIGINT sensor, currently under development for the Gray Eagle that detects radio frequency (RF) emitters. The TSP system will provide a SIGINT capability to the tactical commander. The TSP system will be a modular, scalable payload using an architecture that is software reconfigurable to allow for growth and flexibility as technology, and as the adversaries use of technology, changes. The TSP system improves situational awareness and shortens the targeting cycle by detecting and identifying emitter associated with high value targets (HVTs). The TSP system is capable of processing conventional signals, standard military signals, and modern signals of interest.

FY 2013 base development dollars in the amount of $6.247 million is for the continued integration and test of the CSP HD upgrade as well as the initial pre-contract award efforts for TLA.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: CSP - EO/IR/LD	2.379	-	-
Articles:	0		
Description: CSP Development, testing and final integration			
FY 2011 Accomplishments: Final Testing			
Title: CSP High Definition (HD) - EO/IR/LD	0.200	14.281	3.567
Articles:	0	0	
Description: Development, testing and integration			
FY 2011 Accomplishments: CSP HD Support to NSWC Crane			
FY 2012 Plans: CSP HD Development, testing and integration			
FY 2013 Plans: Final CSP HD Development, testing, integration and program management support.			
Title: CSP HD Target Location Accuracy (TLA) - EO/IR/LD	-	-	2.680
Description: CSP Target Location Accuracy (TLA) - Non Recurring Engineering (NRE), design, build and test of seven CSP HDTLA integration and test assets.			
FY 2013 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
CSP HDTLA Contract prep work - RFP, SOW and Contract award for FY14 TLA development start			
Title: STARLite ER (Extended Range) - SAR/GMTI	11.227	1.629	-
Articles:	0	0	
Description: STARLite (SAR/GMTI) - Design, build, test and integrate 3 STARLite ER integration and test systems (Larger Antenna = Extended Range and Increased Reliability) onto the host platform (Gray Eagle). ***FY 2011 Accomplishments:*** Final testing, integration of the STARLite ER and final development of GMTI vehicle classification and Man-sized detection S/W capability to be cut-in to production in FY12 timeframe ***FY 2012 Plans:*** Finalize testing events and integration onto host platform (Gray Eagle)			
Title: Tactical Signals Intelligence (SIGINT) Payload	10.646	-	-
Articles:	0		
Description: Tactical Signals Intelligence (SIGINT) Payload ***FY 2011 Accomplishments:*** Tactical Signals Intelligence (SIGINT) Payload			
Accomplishments/Planned Programs Subtotals	24.452	15.910	6.247

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0643774 131: *NIGHT VISION SYS A/DEV - 0603774A, 131*	4.975									0.000	4.975
• 0305204A 11B: *Tactical Unmanned Aerial Vehicles - 0305204A, 11B*	5.164	6.282	20.730		20.730		2.709	4.363	4.437	Continuing	Continuing
• A00020: *MQ-1 PAYLOAD - UAS - A00020*	83.556	146.983	231.508		231.508		258.027	10.146	10.162	Continuing	Continuing

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D. Acquisition Strategy

STARLite SAR/GMTI is a threshold requirement for the Gray Eagle UAS. The acquisition strategy for STARLite program was based on a full and open competition for the Army. A five year competitive production contract was awarded in April 2008 to Northrop Grumman for the build, integration, test and delivery of STARLite systems with preplanned improvements for Extended Range and Increased Reliability. STARLite will support the Gray Eagle UAS Initial Operational Test and Evaluation (IOT&E) event planned for 4th Quarter FY 2012. No additional development dollars are planned for STARLite in FY 2013 as the program will be in Full Rate Production (FRP).

Common Sensor Payload (CSP) EO/IR/LD is a KPP (Key Performance Parameter) requirement for the Gray Eagle UAS. The acquisition strategy for the CSP program was based on a full and open competition for the Army. It was briefed and approved at the Army Systems Acquisition Review Council (ASARC) in Dec 2006. A competitive contract was awarded in Nov 2007 to Raytheon for the build, integration, test and delivery of the CSP. CSP will support the Gray Eagle UAS IOT&E event planned for 4th Quarter FY 2012. No additional development dollars are planned for CSP baseline in FY 2013 as the program will be in FRP.

CSP High Definition (HD) is an upgrade to the baseline CSP program which is planned for final development, testing and integration in FY 2012. The development will conclude with a Developmental Test (DT) in early FY 2013 and a production cut-in decision will be briefed to the Milestone Decision Authority (MDA) prior to the FY 2013 CSP HD production buy. A retrofit is also planned for award in FY 2013 to bring all of the previously procured CSP baseline systems up to the HD configuration.

CSP TLA is a directed requirement for the Gray Eagle platform with enhanced capabilities addressed in the Joint Requirement Oversight Council Memorandum (JROCM 051-09). The approved acquisition strategy for the development of this new capability is a sole source task order through the competitively awarded Navy Basic Order Agreement (BOA) with Raytheon that will provide seven integration and test assets. These assets will be used to fully test and integrate this new capability onto the Gray Eagle platform. Once the TLA upgrade has been fully integrated and tested, the program can enter Milestone C and begin production and replacement of the baseline CSP system. The entire Gray Eagle fleet will be retrofitted to the CSP TLA variant.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army			DATE: February 2012
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt Personnel	Various	PM RUS:Aberdeen, MD	7.086	0.871		0.567		-		0.567	Continuing	Continuing	Continuing
PM ARES Funding for TSP	Allot	PM, ARES:Aberdeen, MD	11.255	-		-		-		-	0.000	11.255	11.255
		Subtotal	18.341	0.871		0.567		-		0.567			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STARLite Extended Range (ER) (SAR/GMTI)	C/CPFF	Northrop Grumman:Linthicum, MD	6.786	-		-		-		-	0.000	6.786	6.786
CSP EO/IR/LD	C/FFP	Raytheon:McKinney, TX	48.500	-		-		-		-	0.000	48.500	48.500
CSP HD (High Definition)	MIPR	NSWC Crane:Crane, IN	3.000	7.850		-		-		-	0.000	10.850	10.850
CSP TLA - NRE, Build and Test	MIPR	NSWC Crane:Crane, IN	22.000	-		2.680		-		2.680	Continuing	Continuing	Continuing
		Subtotal	80.286	7.850		2.680		-		2.680			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Gray Eagle Integration Support (STARLite ER, CSP, HD & TLA)	MIPR	PM UAS/General Atomics:Huntsville, AL	20.344	4.191		1.500		-		1.500	Continuing	Continuing	Continuing
		Subtotal	20.344	4.191		1.500		-		1.500			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11A: *Advanced Payload Develop & Spt (MIP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STARLite ER (Extended Range) - SAR/GMTI	MIPR	Various:Linthicum, MD	12.250	-		-		-		-	0.000	12.250	12.250
CSP (EO/IR/LD)	MIPR	Various:Various	13.779	-		-		-		-	0.000	13.779	13.779
CSP HD	MIPR	NSWC Crane:Crane, IN	-	2.998		1.500		-		1.500	0.000	4.498	4.498
CSP TLA	MIPR	NSWC Crane:Crane, IN	-	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	26.029	2.998		1.500		-		1.500			

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	145.000	15.910		6.247		-		6.247			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11A: *Advanced Payload Develop & Spt (MIP)*

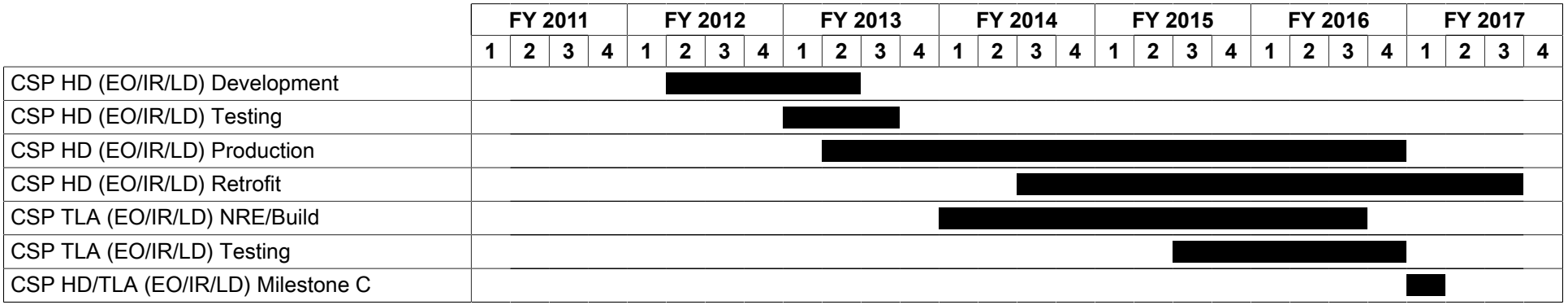

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11A: *Advanced Payload Develop & Spt (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CSP HD (EO/IR/LD) Development	2	2012	2	2013
CSP HD (EO/IR/LD) Testing	1	2013	3	2013
CSP HD (EO/IR/LD) Production	2	2013	4	2016
CSP HD (EO/IR/LD) Retrofit	3	2014	3	2017
CSP TLA (EO/IR/LD) NRE/Build	1	2014	3	2016
CSP TLA (EO/IR/LD) Testing	3	2015	4	2016
CSP HD/TLA (EO/IR/LD) Milestone C	1	2017	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *TSP DEVELOPMENT (MIP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
11B: *TSP DEVELOPMENT (MIP)*	5.164	6.282	20.730	-	20.730	5.436	2.709	4.363	4.437	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Tactical Signals Intelligence (SIGINT) Payload (TSP) is a SIGINT sensor, currently under development for the Gray Eagle that detects radio frequency (RF) emitters. The TSP system will provide a SIGINT capability to the tactical commander. The TSP system will be a modular, scalable payload using an architecture that is software reconfigurable to allow for growth and flexibility as technology, and as the adversaries use of technology, changes. This flexible architecture allows for third party software applications to be integrated into the TSP system. The TSP system is a complementary system to the aerial and terrestrial Intelligence, Surveillance, and Reconnaissance (ISR) layers through direct interface with the Distributed Common Ground System-Army (DCGS-A) Information and Intelligence Enterprise (DI2E). It supports Manned/Unmanned (MUM) teaming with Brigade Combat Team ground SIGINT Terminal Guidance (STG) teams and manned airborne assets. The TSP system improves situational awareness and shortens the targeting cycle by detecting and identifying emitters associated with high value targets (HVTs).

The TSP system is capable of processing conventional signals, standard military signals, and modern signals of interest. This includes detection, recognition, identification, direction finding, and high confidence geo-location. The TSP system operates in two modes, passive and active to provide an enhanced Aerial Precision Geolocation (APG) capability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: EMD NRE, Training Development, Other Licensing and Equipment	5.164	6.282	20.730
Articles:	0	0	
Description: EMD NRE, Training Development, Other Licensing and Equipment			
FY 2011 Accomplishments: Continued EMD NRE, Training Development, Other Licensing and Equipment. Awarded EMD contract			
FY 2012 Plans: Continued EMD NRE(2), Training Development, Other Licensing and Equipment			
FY 2013 Plans: Continued EMD NRE(2), Training Development, Other Licensing and Equipment			
Accomplishments/Planned Programs Subtotals	5.164	6.282	20.730

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *TSP DEVELOPMENT (MIP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0305204A 11A: *NSA MIP (TSP)*	0.520		8.669		8.669		6.795			0.000	22.779
• A00020: *MQ-1 Payload*	83.600	147.000	231.500		231.500		258.000	10.100	10.200	0.000	989.900
• 0305204A /11A: *Advanced Payloads Development*	10.646									0.000	10.646

D. Acquisition Strategy

TSP is a threshold requirement for the MQ-1C Gray Eagle UAS. The TSP program entered the Engineering and Manufacturing Development (EMD) phase with a Milestone B decision in September 2011. The TSP Program EMD contract award was based on full-and-open competition and was focused on integration and test onto the Gray Eagle platform and integration and test of TSP software into the Distributed Common Ground System-Army (DCGS-A). The TSP EMD program is a derivative of systems that are currently fielded on the Hunter UAS and a variety of other manned platforms. The demonstrated scalability of these fielded materiel solutions allows the TSP EMD program to leverage efforts that directly support the TSP EMD program.

The TSP programs acquisition strategy has been modified to accommodate the FY 2012 Appropriation that reduces the 11B Funding Line by $14.100 Million. The TSP program is following an incremental acquisition strategy with a TSP Block 0, Block 1 and Block 2.

The TSP Block 0 will provide an early TSP operational capability for the Gray Eagle program.

The TSP Block 1 is the current Program of Record that entered EMD in FY 2011.

Beginning in FY 2016, the TSP Block 2 effort will address System enhancements and upgrades as the threat and technology evolves.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *TSP DEVELOPMENT (MIP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management-Gov	RO	PM ARES:APG	5.412	0.810		1.264		-		1.264	Continuing	Continuing	Continuing
Program Management Support	MIPR	Various:APG	2.830	0.350		0.396		-		0.396	Continuing	Continuing	Continuing
FFRDC Support	FFRDC	MITRE:APG	0.286	0.358		1.260		-		1.260	Continuing	Continuing	0.000
		Subtotal	8.528	1.518		2.920		-		2.920			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSP EMD	C/CPIF	BAE Systems,:Nashua, NH	2.841	3.544		6.953		-		6.953	Continuing	Continuing	Continuing
		Subtotal	2.841	3.544		6.953		-		6.953			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	MIPR	Various:...	1.250	0.540		1.000		-		1.000	Continuing	Continuing	Continuing
		Subtotal	1.250	0.540		1.000		-		1.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test and Activities	MIPR	Various:ATEC/APG	4.139	0.680		4.600		-		4.600	Continuing	Continuing	Continuing
Systems Integration and Test	MIPR	ATEC:APG	0.500	-		3.247		-		3.247	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *TSP DEVELOPMENT (MIP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Range & Aircraft Support	MIPR	Lakehurst, Ft Huachuca, others:Various	-	-		2.010		-		2.010	0.000	2.010	0.000
		Subtotal	4.639	0.680		9.857		-		9.857			

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	17.258	6.282		20.730		-		20.730			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *TSP DEVELOPMENT (MIP)*

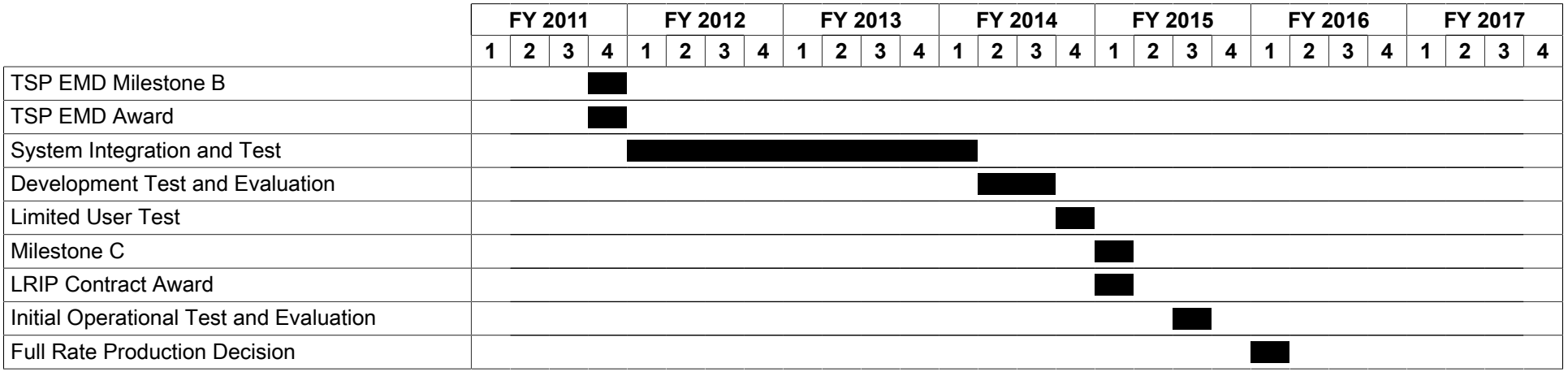

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11B: *TSP DEVELOPMENT (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TSP EMD Milestone B	4	2011	4	2011
TSP EMD Award	4	2011	4	2011
System Integration and Test	1	2012	1	2014
Development Test and Evaluation	2	2014	3	2014
Limited User Test	4	2014	4	2014
Milestone C	1	2015	1	2015
LRIP Contract Award	1	2015	1	2015
Initial Operational Test and Evaluation	3	2015	3	2015
Full Rate Production Decision	1	2016	1	2016

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (MIP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (MIP)*	6.483	4.316	4.326	-	4.326	4.244	2.068	3.290	3.345	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Unmanned Aircraft System (UAS) Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a Joint facility that develops, integrates, and supports the enhancement of its Multiple Unified Simulation Environment (MUSE) capability for Army systems and operational concepts. The JTC/SIL conducts prototype hardware and software development, builds the UAS Institutional Mission Simulator (IMS) trainers for the Shadow, Hunter, and ERMP programs, and provides modeling and simulation support. The MUSE is a real-time, operator in-the-loop simulation that may be integrated with larger simulations in support of Army and Joint training and exercises. The MUSE is also employed as a Mission Rehearsal Tool for ongoing combat operations. This project funds the management of the JTC/SIL and MUSE enhancements.

This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Product Development	3.687	1.800	1.840
Articles:	0	0	

Description: Funding is provided for the following efforts.

FY 2011 Accomplishments:
Released MUSE 8.6 software which contained advanced weaponization, improvements for software for integrating third party software to meet user requirements such as mapping and visualization software, advanced mission planning capabilities, ease of use enhancements to assist users in operation of the system, networking software for easier connection and control in a distributed network environment, entity handling software improvements and Windows 7 64 bit operations.

FY 2012 Plans:
Integration of a government owned visualization package. Develop more ease of use enhancements including standardized set up packages for the aircraft simulation. Evaluate Ground Control Station simulation improvements for fidelity and realism. Design, develop, implement, and release Build 8.8.

FY 2013 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Move to smart phone or more portable computing capabilities. Evaluate the adaptable environment that gives the user more flexibility by choosing which components to use for a more customized environment. Incorporate new sensor technologies. Incorporate new aircraft and avionics. Design, develop, implement, and release Build 8.9.			
Title: Support OSD Joint UAS Interoperability Requirements and Activities	2.000	2.000	2.000
Articles:	0	0	
Description: Funding is provided for the following efforts. ***FY 2011 Accomplishments:*** Established the JSIL as a legitimate Joint test organization by forging relationships with Test Resources Management Center (TRMC) and Joint Interoperability Test Center (JITC). Continued to move the UAS Control Segment Working Group (UCS WG) forward to include coordinating and integrating a tri-service demonstration of the architecture. Developed of UCS Architecture related tools and training aids. Established an Unmanned Systems Interoperability Profile (USIP) Management Plan which governs the USIP process. ***FY 2012 Plans:*** Develop UCS Architecture environment and compliance tools. Develop and publish multiple new USIPs based on OSD prioritization. Provide technical and administrative support to I IPT and associated WGs. ***FY 2013 Plans:*** Continue development of UCS Architecture environment and compliance tools. Continue to develop and publish multiple new USIPs based on OSD prioritization. Continue to provide technical and administrative support to I IPT and associated WGs.			
Title: Management Services	0.796	0.516	0.486
Articles:	0	0	
Description: Funding is provided for the following efforts. ***FY 2011 Accomplishments:*** Provided coordination and oversight of MUSE product development and OSD Interoperability Requirements and Tool development. ***FY 2012 Plans:*** Continue coordination and oversight of MUSE product development and OSD Interoperability Requirements and tool development. ***FY 2013 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue coordination and oversight of MUSE product development and OSD Interoperability Requirements and Tool development.			
Accomplishments/Planned Programs Subtotals	6.483	4.316	4.326

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0603261N Navy: *PE 0603261N Navy*	3.661	3.573	3.600		3.600		3.667	1.689		Continuing	Continuing
• PE 0305206F Air Force: *PE 0305206F Air Force*	3.362	3.235	3.464		3.464		3.504	3.387		Continuing	Continuing

D. Acquisition Strategy

Continued MUSE development will be accomplished through a combination of Government in-house functional directorate support using a variety of existing contract vehicles.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (MIP)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	MIPR	AMC, AMCOM, AMRDEC, SED:Redstone Arsenal, AL	0.796	0.516		0.486		-		0.486	Continuing	Continuing	Continuing
		Subtotal	0.796	0.516		0.486		-		0.486			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MUSE Development	MIPR	AMC, AMCOM, AMRDEC, SED:Redstone Arsenal, AL	3.687	1.800		1.840		-		1.840	Continuing	Continuing	Continuing
		Subtotal	3.687	1.800		1.840		-		1.840			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interoperability Support	MIPR	AMC, RDECOM, AMRDEC:Redstone Arsenal, AL	2.000	2.000		2.000		-		2.000	Continuing	Continuing	0.000
		Subtotal	2.000	2.000		2.000		-		2.000			0.000

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.483	4.316		4.326		-		4.326			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT D10: *SUAV (MIP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
D10: *SUAV (MIP)*	0.331	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Funding for this project shifts to PE 0305232A RQ-11 in FY11.

A. Mission Description and Budget Item Justification

The Small Unmanned Aircraft System (SUAS) provides the battalion and below ground maneuver elements critical situational awareness and enhances force protection. The system provides the small unit commander an organic and responsive tactical Reconnaissance, Surveillance, and Target Acquisition (RSTA) capability through the ability to view real-time Full Motion Video (FMV) and sensor data via the system ground control station. Other compatible receivers, such as the One Station Remote Video Terminal (OSRVT) and appropriately equipped manned platforms may also receive the SUAS products.

A SUAS includes three aircraft that must be launched by hand or by some other means that does not require an improved launch/recovery location. In addition to the aircraft, the system contains ground support equipment, which includes an interoperable hand controller. This equipment is fully transportable in or on rucksack type packs that are organic to the unit.

The SUAS RDT&E budget line includes funding for studies and incremental development/upgrade of current SUAS capabilities that will capitalize on new technology insertions based on identified user requirements. Past improvements include a Digital Data Link capability, introduced in 2010, which provided data link security, increased the number of communications channels allowing more aircraft to operate in close proximity, extended range through data link relay capability, and integrated advanced digital payloads. Future enhancements will follow the natural progression of technology and exploitation of improved payloads to meet warfighter needs. FY 2013 and future improvements will be in the areas of: continued communications link encryption; gimbaled payloads; software blocking integration; common hand controller development and integration; ADS-B integration; and noise reduction.

Justification:

FY 2013 engineering services efforts will continue to focus on communication link encryption, GPS Denied / Comms Denied Navigation, Autonomous Air Vehicle behaviors, Simulator upgrades, ADS-B integration, and noise reduction.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Title: Program Management Support		0.331	-	-
	Articles:	0		
Description: Program Management Support				

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT D10: *SUAV (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Program Management Support			
Accomplishments/Planned Programs Subtotals	0.331	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RQ-11 (RAVEN MIP) (RDT&E,A): *RQ-11 (RAVEN MIP) (RDT&E,A) - 0305232A*	1.547	1.935	4.039		4.039		2.977	3.025	3.077	0.000	19.517
• RQ-11 (RAVEN) / APA - A00010: *RQ-11 (RAVEN) / APA - A00010*	37.467	86.062	25.798		25.798		25.342	25.356	26.675	0.000	250.134

D. Acquisition Strategy

Small Unmanned Aircraft System (SUAS) acquisition strategy was based upon a full and open and was awarded in Aug 2005. The Full Rate Production Decision Review was approved in Oct 2006 with Full Rate Production beginning in April 2007. A significant system upgrade was completed in early FY2010 incorporated a Digital Data Link (DDL) which improved operational capability by: incorporating an encryption capability enabling secure data links increasing the number of channels allowing for more air vehicles to be flown in a smaller areas; extending the operational range through communication relay capability; and integration of advanced digital payloads. The first DDL systems were fielded in December 2009.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT D10: *SUAV (MIP)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	RO	PM UAS:PM UAS	1.278	-		-		-		-	0.000	1.278	0.000
		Subtotal	1.278	-		-		-		-	0.000	1.278	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Improvement Studies and Plans (Engineering Services)	SS/CPFF	Aero Vironment:Simi Valley, CA	13.047	-		-		-		-	0.000	13.047	0.000
Shadow Flight In National Air Space	SS/CPIF	Aero Vironment:Simi Valley, CA	2.000	-		-		-		-	0.000	2.000	0.000
		Subtotal	15.047	-		-		-		-	0.000	15.047	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies	MIPR	AMRDEC / IMMC / Various:Redstone Arsenal, AL / Various	0.550	-		-		-		-	0.000	0.550	0.000
		Subtotal	0.550	-		-		-		-	0.000	0.550	0.000

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.875	-		-		-		-	0.000	16.875	0.000

Remarks